



**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Globalstar, Inc. Petition for Rulemaking	)	
to Reform the Commission's Regulatory	)	RM-11685
Framework for Terrestrial Use of the	)	
Big LEO MSS Band	)	

**INTRODUCTION**

Wi-Fi Alliance<sup>®</sup> respectfully requests the Commission consider the comments of our member companies with regards to the Globalstar Petition for Rulemaking in RM-11685.

Wi-Fi Alliance is a global non-profit industry association of hundreds of leading companies devoted to seamless connectivity. With technology development, market building, and regulatory programs, Wi-Fi Alliance has enabled widespread adoption of Wi-Fi worldwide.

The Wi-Fi CERTIFIED™ program was launched in March 2000. It provides a widely-recognized designation of interoperability and quality and it helps to ensure that Wi-Fi-enabled products deliver the best user experience. Wi-Fi Alliance has completed more than 15,000 product certifications, encouraging the expanded use of Wi-Fi products and services in new and established markets.

## **DISCUSSION**

Globalstar, Inc. has petitioned the Commission for a Rule Making to “Reform the Commission's Regulatory Framework for Terrestrial Use of the Big LEO MSS Band” in RM-11685. Wi-Fi Alliance has studied the proposal, and has several concerns that we would like to have addressed should the Commission decide to proceed to a rulemaking.

Wi-Fi Alliance members manufacture unlicensed devices that use the spectrum from 2400 to 2483.5 MHz. In its Petition for Rulemaking, Globalstar proposes to provide a terrestrial service that utilizes its adjacent licensed spectrum along with a portion of the 2.4 GHz unlicensed band, from 2473 to 2483.5 MHz. In IEEE 802.11 terms, this spectrum is known as Channel 14, and its unlicensed use is limited in the United States due to the presence of the restricted spectrum at 2483.5 MHz. In its technical appendix, Globalstar represents that its proposed out of band emissions rule would not present challenges for some Part 15 devices authorized for the band, but might require new filtering for other Part 15 devices. It is not clear from the Appendix which devices Globalstar examined, or the impact of the new OOB rule to the many millions of Wi-Fi devices operating in the market today, or being sold now. Wi-Fi Alliance believes it needs to examine carefully the issues raised by the Petition due to the implications for our member companies.

**WI-FI ALLIANCE MEMBER COMPANIES HAVE SOME VERY SPECIFIC CONCERNS  
WITH THE PROVISIONS OF THE PROPOSED GLOBALSTAR USE OF 2473 TO 2483.5  
MHZ, AS WELL AS THE 2483.5 TO 2495 MHZ BANDS**

**Filtering issues:** Globalstar's low power use of 2473-2483.5 MHz may require a change in filtering due to a change in the Out of Band Emissions (OOBE) requirements on the upper part of the band. If required, this would raise device cost for new devices. If a change is required, there is also an embedded base issue (e.g., embedded base of unlicensed devices will be around for a while using existing masks).

In paragraph 40 of their Petition, Globalstar states that "Actual 802.11-based TLPS end-user devices operating at typical power levels should consistently comply with Globalstar's proposed OOBE limit. As described in the Technical Analysis, given the lack of passive filtration in existing 802.11-enabled consumer devices, 802.11 transceivers display virtually uniform emission masks, even across disparate chipset and device architectures. Surveys of current-generation mobile devices in the Commission's equipment certification database indicate that the conducted power levels associated with these devices will enable compliance with the proposed OOBE limit without the need for additional hardware-based filtration."<sup>1</sup> (emphasis added)

Globalstar's representations that devices "should" not create issues for its proposed service, or that unspecified "surveys" of equipment were performed in anticipation of its rulemaking petition are

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<sup>1</sup> Appendix B at 5. Compare 802.11g OFDM mask on page 4 of Appendix B with proposed mask on page 5 of Appendix B. See also footnote 101 on page 40, noting that Globalstar will install passive filtration into its TLPS "base stations" access points. See also Appendix B at pages 7-8. See also footnote 101 on page 40 and pages 40-41 of petition: Globalstar seeks "typical" power levels of 4 watts (36 dBm) for its TLPS access points.

insufficient evidence on which to base such a significant change to the 2.4 GHz band. We believe that this issue requires more study before Globalstar's assertions can be shown to be accurate, keeping in mind that there are many professionally installed, high-power devices operating in the band.

**Potential loss of Wi-Fi Channel 11:** As described in the petition, Globalstar's use of 2473-2483.5 MHz would be exclusive to Globalstar and protected. That is spectrum that today serves as a de facto guardband between Wi-Fi uses and Globalstar's licensed spectrum above and adjacent to the unlicensed band. Under the proposal, the guardband is eliminated; stated differently, interference into 2473 – 2483.5 MHz by devices operating below 2473 sets up a new problem for 2.4 GHz unlicensed device manufacturers. Since Globalstar would have exclusive rights to 2473-2483.5 MHz, interference into that band would appear to require devices to cease the use of Channel 11. That is potentially a significant problem since most device use is concentrated on Channels 1, 6 and 11, as Globalstar itself recognizes.<sup>2</sup>

**Loss of upper 2.4 GHz band by Bluetooth technologies and future technologies:** In addition to the adjacent Wi-Fi use, Bluetooth devices today use spectrum up to 2480 MHz. It appears that under the Globalstar proposal, Bluetooth manufacturers would no longer have access to spectrum above 2473 MHz, given that the spectrum would exclusively be used by Globalstar. Reducing available spectrum for unlicensed use at 2.4 GHz would concentrate use of the remaining spectrum, contributing to congestion. Similarly, future technologies that seek to take

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<sup>2</sup> See Appendix B page 3 (TLPS use of Channel 14 bumps up against Channel 11)

advantage of the 2.4 GHz unlicensed rules would have less spectrum in which to transmit and receive.

**Exclusive use of a portion of the 2400-2483.5 GHz "commons" by a single firm:** The spectrum commons is supposed to be in place so that radio innovators can use the spectrum to its fullest extent, limited by the requirement not to cause interference to the licensees around it. By licensing some previously designated commons spectrum to a single firm, the FCC would diminish the spectrum<sup>3</sup> available for future innovation in the commons. Any benefits to the use of 2473-2483.5 MHz accrue solely to Globalstar and not to the broader ecosystem of device manufacturers<sup>4</sup>.

**Inconsistent with globally harmonized rules, harming US manufacturers:** The 2400 - 2483.5 MHz band is globally harmonized, and is the workhorse today for smartphones, tablets, laptops and other consumer devices depending on Wi-Fi and Bluetooth. Shrinking available spectrum is not an outcome that supports U.S.-based manufacturers of unlicensed devices who are selling billions of devices into the global market. Any benefits that accrue to Globalstar or its customers will pale against the precedent of taking spectrum away from 2.4 GHz unlicensed should other jurisdictions decide that they have a domestic need that must be met.

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<sup>3</sup> See Petition pages 16-17. Globalstar will protect the integrity of the AWS-5 band by **providing TLPS only to authenticated users and devices** and utilizing available technologies to prevent unauthorized use of this spectrum.

<sup>4</sup> See Petition at page 42: Globalstar to deploy security to prevent unauthorized use of 2473-2495 MHz. See Petition at page 43: **Globalstar network can terminate use of TLPS in network access control layers** (e.g., turning off 2473-2483.5 MHz)

## **CONCLUSIONS**

Wi-Fi Alliance appreciates the Commission's consideration of our concern with the Globalstar Petition for Rulemaking. We hope that the issues raised herein are addressed with respect to the many millions of users of Wi-Fi devices, the Wi-Fi device manufacturers that comprise a large, healthy and thriving industry, and the chipset manufacturers that support these devices. Should the Commission proceed with the NPRM, we ask that these issues be fully addressed in the proceeding, so that the concerns of all involved may be heard before the FCC reaches a final decision on the request.

Respectfully submitted

**WI-FI ALLIANCE**

A handwritten signature in dark ink, appearing to read 'Edgar Figueroa', written over the printed name.

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